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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/672,308	09/26/2003	Stefan Gemhardt	14580-032001	4457

20985 7590 03/21/2005

FISH & RICHARDSON, PC  
12390 EL CAMINO REAL  
SAN DIEGO, CA 92130-2081

EXAMINER
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CHAMBLISS, ALONZO

ART UNIT	PAPER NUMBER
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2814

DATE MAILED: 03/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/672,308

Applicant(s)

GERNHARDT ET AL.

Examiner

Alonzo Chambliss

Art Unit

2814

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 7-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 6 is/are rejected.
- 7) ☒ Claim(s) 4 and 5 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Election/Restrictions***

1. Applicant's election without traverse of claims 1-6 in the reply filed on 1/10/05 is acknowledged.
2. Claims 7-15 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected product claims, there being no allowable generic or linking claim.

***Drawings***

3. The formal drawings filed on 9/26/03 have been approved by the examiner.

***Specification***

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The following title is suggested: " METHOD FOR FORMING A CONTACT ON A TOP ELECTRODE IN FEFFOELECTRIC CAPACITOR DEVICES ".

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-3 and 6 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Ma et al. (US 2002/0006674).

With respect to Claim 1 and 6, Ma teaches forming a substrate with a contact plug 114 through the substrate. Forming a first electrode 304 on the substrate and forming a dielectric layer 306 (i.e. made of a ferroelectric material) on the first electrode 304. Forming a second electrode 308/310 on the dielectric layer 306 and applying an interlayer dielectric layer (i.e. any one of the dielectric layers 402, 404, 406, 408, or 410) to the second electrode 308/310. Exposing surfaces of the first electrode 304 and/or the dielectric layer (i.e. any one of the dielectric layers 402, 404, 406, 408, or 410) by applying chemical mechanical polishing to the interlayer dielectric layer to expose a surface of the second electrode 308/310. Depositing a metal layer 430, 432 on the interlayer dielectric layer and the exposed surface of the second electrode and etching the metal layer 430,432 to provide an interconnection pattern to the second electrode 308/310 (see paragraphs 19, 50, 55, 61-64, 71-81, 89, and 93-101; all figures).

With respect to Claim 2, Ma teaches a first layer 302 on the substrate, the step of forming the first electrode comprising forming the first electrode on the first layer 302 (see Figs. 3a-3c and 4a-4d).

With respect to Claim 3, Ma teaches wherein the step of forming a first electrode comprises connecting the first electrode to the plug through the first layer (see Figs. 3a-3c and 4a-4d).

***Allowable Subject Matter***

7. Claims 4 and 5 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowance subject matter: the prior art of record does not teach or suggest the combination of an exposed surface of the second electrode having a first surface area and the metal layer having a surface having a second surface area. The surface of the metal layer contacting the exposed second electrode and wherein the step of etching the metal layer comprises etching the metal layer such that the second surface area is greater than the first surface area in claim 4.

The prior art made of record and not relied upon is cited primarily to show the process of the instant invention.

**Conclusion**

8. Any inquiry concerning the communication or earlier communications from the examiner should be directed to Alonzo Chambliss whose telephone number is (571) 272-1927.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-7956

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system Status information for published applications may be obtained from either Private PMR or Public PMR. Status information for unpublished applications is available through Private PMR only. For more information about the PMR system see <http://pair-dkect.uspto.gov>. Should you have questions on access to the Private PMR system contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or [EBC\\_Support@uspto.gov](mailto:EBC_Support@uspto.gov).

AC/March 16, 2005

A handwritten signature in black ink, appearing to read "Alonzo Chambliss". The signature is fluid and cursive, with the first name "Alonzo" and last name "Chambliss" clearly distinguishable.

Alonzo Chambliss  
Primary Patent Examiner  
Art Unit 2814